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From: Meyer, Dan
To: Kyle Heitkamp; Jacob Odekirk (Jacob.Odekirk@PotlatchDeltic.com)
Cc: McFadden, Kelly; Hardesty, Doug
Subject: RE: PotlatchDeltic - St. Maries - Kiln 6 Permit Modification
Date: Thursday, March 19, 2020 2:50:00 PM

Thanks for that input Kyle. I'll let you know if I have any further questions.

Dan Meyer
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From: Kyle Heitkamp <kheitkamp@ramboll.com>
Sent: Thursday, March 19, 2020 2:46 PM
To: Meyer, Dan <Meyer.Dan@epa.gov>; Jacob Odekirk (Jacob.Odekirk@PotlatchDeltic.com) <Jacob.Odekirk@PotlatchDeltic.com>
Cc: McFadden, Kelly <McFadden.Kelly@epa.gov>; Hardesty, Doug <Hardesty.Doug@epa.gov>
Subject: RE: PotlatchDeltic - St. Maries - Kiln 6 Permit Modification

Hi Dan,

Perfect timing, as we were just discussing your question from our new home offices.

Following up on your statement, we discussed with both Larry and Brian. The fan speed and roof vent opening position are the same across all of the entire kiln and those operating parameters do not vary by individual zone. Steam valve positioning can vary slightly by zone, but only to maintain the kiln-wide average temperature.

Let me know if this helps.

Kyle

Kyle Heitkamp
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From: Meyer, Dan <Meyer.Dan@epa.gov>
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Cc: McFadden, Kelly <McFadden.Kelly@epa.gov>; Hardesty, Doug <Hardesty.Doug@epa.gov>
Subject: RE: PotlatchDeltic - St. Maries - Kiln 6 Permit Modification

Kyle and Jacob,

As I indicated to you on Tuesday, it is my impression that the Wellons software is tailoring heat input, fan speed and roof vent positioning to each zone based upon the TDAL for that zone with the intent of helping the charge collectively reach the set point temperature as quickly as possible. Once kiln-wide average set point temperature is achieved, the run can advance to the next stage of the drying schedule. I'm intending to move forward processing the application with that understanding as I've not received from you a response with information to the contrary. If all or part of my understanding is incorrect, please let me know.

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From: Meyer, Dan
Sent: Tuesday, March 17, 2020 12:29 PM
To: Kyle Heitkamp <kheitkamp@ramboll.com>; Jacob Odekirk (Jacob.Odekirk@PotlatchDeltic.com) <Jacob.Odekirk@PotlatchDeltic.com>
Cc: McFadden, Kelly <McFadden.Kelly@epa.gov>; Hardesty, Doug <Hardesty.Doug@epa.gov>
Subject: RE: PotlatchDeltic - St. Maries - Kiln 6 Permit Modification

Thanks Kyle. I need further clarification. When you say, "While the kiln is drying a charge of lumber, the Wellons software is managing the temperature drop across the load (tdal) in each kiln zone in order to maintain the kiln-wide average temperature close to the drying schedule requirements," does that mean the Wellons software is tailoring heat input, fan speed and roof vent positioning to each zone based upon the TDAL for that zone with the intent of helping the charge collectively reach the set point temperature as quickly as possible. Once kiln-wide average set point temperature is achieved, the run can advance to the next stage of the drying schedule.

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From: Kyle Heitkamp <kheitkamp@ramboll.com>
Sent: Tuesday, March 17, 2020 11:53 AM
To: Meyer, Dan <Meyer.Dan@epa.gov>; Jacob Odekirk (Jacob.Odekirk@PotlatchDeltic.com) <Jacob.Odekirk@PotlatchDeltic.com>
Cc: McFadden, Kelly <McFadden.Kelly@epa.gov>; Hardesty, Doug <Hardesty.Doug@epa.gov>
Subject: RE: PotlatchDeltic - St. Maries - Kiln 6 Permit Modification

Dan,

We reviewed your question on the Wellons kiln management software with the Larry Branson and Brian Lounsbury. The information you pulled from the Wellons website is accurate, and the statements in the permit application are also accurate. I have summarized a few key points on Kiln 6 operations below.

1. PotlatchDeltic has lumber drying schedules that dictate kiln-wide average temperature set points over drying time. The PotlatchDeltic drying schedule is loaded into the Wellons software.

2. While the kiln is drying a charge of lumber, the Wellons software is managing the temperature drop across the load (tdal) in each kiln zone in order to maintain the kiln-wide average temperature close to the drying schedule requirements. The zone-by-zone temperatures will vary slightly, but the average across the zone is the target for the Wellons software

    a. For example: if the temperature set point is 200 F, the kiln management system will target a kiln-wide average temperature of 200 F. For a two zone kiln, the set point of 200 F is met if the kiln software manages temperatures in zone 1 and zone 2 of 198 F and 202 F, respectively.

3. After the kiln-wide average temperature meets the drying schedule set point threshold, the Wellons software will move on to the next temperature set point in the drying schedule. The Wellons software does not advance the kiln

drying schedule on a zone-by-zone basis.

The information you gathered from the Wellons website is accurate, and the software is actively managing kiln temperatures so that the average across the kiln is tracking the lumber drying schedule. The software presents the kiln-wide average information to the kiln operator while the lumber is drying.

Please let me know if this helps clarify how the Wellons software functions.

Kyle

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Cc: McFadden, Kelly <McFadden.Kelly@epa.gov>; Hardesty, Doug <Hardesty.Doug@epa.gov>
Subject: RE: PotlatchDeltic - St. Maries - Kiln 6 Permit Modification

Thanks Kyle. I am seeking help regarding a statement in the application pertaining to the request for a change to the operating temperature limit for LK-6. Here's the excerpt from the application:

> *PD requests the "in each zone" permit condition language in the mNSR and PSD permits be changed to "kiln-wide average" because the Wellons kiln management software uses kiln-wide average temperature data (i.e., values averaged over all kiln zones) to implement the drying schedule for each wood species. Also, the Wellons kiln management software uses kiln-wide average temperature values to make fan and vent adjustments necessary to reach the temperature set points of the programmed drying schedule.*
> *The temperature data from individual kiln zones are used only to calculate the kiln-wide average temperatures, except for a high-temperature alarm used to alert the kiln operator of a kiln zone temperature that is greater than 20 degrees above the drying schedule set point. This alarm is intended to identify a malfunctioning steam valve stuck in the open position or, in the worst-case scenario, a fire in the kiln. After receiving a high-temperature alarm, the kiln operator will check the steam valves associated with the indicated kiln zone and manually close the malfunctioning steam valve. After the batch of lumber is dried, the malfunctioning steam valve is checked and, if necessary, replaced.*

It is my impression that the computerized kiln management system makes zone-specific adjustments to steam distribution, fan speed and/or roof vent position (relative to other zones) based upon zone-specific TDAL. Multi-zone control. Here is a screenshot from Wellons site at http://www.wellons.com/cmz.html:

Wellons states, "CMZ places heat where it is needed to bring the charge to a uniform moisture content and drying rate." This statement from Wellons implies that the kiln management system does make zone-specific adjustments based upon zone-specific TDAL. I'm trying to get my head around what is stated in the application and what appears on Wellons' website. Can you help me out?

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Cc: Steve Henson (Steve.Henson@PotlatchDeltic.com) <Steve.Henson@PotlatchDeltic.com>; Jacob Odekirk

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Subject: PotlatchDeltic - St. Maries - Kiln 6 Permit Modification

Kelly,

Thank you and your staff for meeting with us to discuss the Kiln 6permit revision options.

Please find the attached electronic copy of the PotlatchDeltic request to modify the Kiln 6 mNSR and PSD permits. A hardcopy will be mailed to EPA Region 10 later today, and I will provide Jay with a link to the modeling files for EPA review.

Please do not hesitate to call/email Jacob or me with any questions on the permit revisions.

Kyle

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